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VISTO CORPORATION

UNITED STATES DISTRICT COURT

NORTHERN DISTRICT OF CALIFORNIA

SAN FRANCISCO DIVISION

VISTO CORPORATION,

Plaintiff,

v.

SPROQIT TECHNOLOGIES, INC.,

Defendant.

AND RELATED COUNTER-ACTION

Case No. C 04-0651 EMC

DECLARATION OF DR. SABIN HEAD IN SUPPORT OF VISTO'S MOTION FOR PRELIMINARY INJUNCTION

Hearing Date: January 4, 2005
Time: 10:30 a.m.
Courtroom: C, 15th Floor
Judge: Hon. Edward M. Chen

I, Sabin Head declare as follows:

1. I, Sabin Head, make this declaration in support of Plaintiff Visto Corporation's ("Visto") Motion for Preliminary Injunction. The statements set forth herein are based upon my own knowledge and I would testify as set forth if called as a witness at trial.

A. Credentials and Qualifications

2. I received an Honors B.A. from Harvard in the area of psychophysics with minors in math and physics. I received a Ph.D. from The University of Michigan in Sensory Intelligence, an interdepartmental hybrid between the mathematics, electrical engineering, and experimental

psychology departments investigating the area of human sensory processing involved in the detection and recognition of small auditory signals in the presence of noise.

3. As a consultant over the past decade, I have been qualified as an expert in federal court and have offered consultation, deposition and trial testimony in several cases. As a working engineer over the decade previous to that, I worked as a programmer, algorithm designer, manager, and system software architect in the areas of graphics and simulation in Computer Aided Design. Prior to that time, I was for five years a member of the Research Faculty of the University of Michigan. A copy of my curriculum vitae is attached as Exhibit A.

4. My consulting experience has included several issues in the area of networks, local area networks (LANs) including remote storage node LANs, cluster-based fail-safe wide area and metropolitan area network designs (WANs and MANs), telecommunication deployment systems in the context of Baby Bells, and satellite communications and signal transmission protocols, as well as wireless synchronization. All of these are in the combined and interrelated areas of computer programming, distributed programming and distributed storage, enterprise-level interstate distributed contracting and scheduling systems, digital hardware systems, communications protocols, and theoretical aspects of small signal detection, recognition, and analysis.

5. As part of my industrial practice I designed and managed several large-scale data and file synchronization and version management systems in the context of team development of both large software systems and large hardware systems undergoing iterative engineering design and test. As part of my work on the research faculty of the University of Michigan I developed in 1974 a prototype e-mail system for a workgroup distributed campus-wide in various departments and individual homes, based on dumb-terminal dial-up connections to the university's time-share central computer. As a graduate student I was in 1969 a user of the original ARPANET when it started up and have been involved in a variety of networks from that time to the present. I have been programming continuously since 1963.

6. The opinions set forth below are based upon my own extensive experience in the computer field, my conversations with others in the field, Visto inventors, and my review of the

materials referred to below. I am being compensated at a rate of $275 per hour for my work in this matter.

B. Assignment & Materials Reviewed

7. In the preparation of this declaration, I have studied Sproqit's mobile-device-to-computer synchronization products: Sproqit's Personal Edition, comprising the Sproqit Desktop Agent and its associated Sproqit Companion, and Sproqit's Workgroup Edition, comprising the Sproqit Workgroup Agent and its associated Sproqit Companions, both of these together with the Sproqit Server to which they both connect, and with Sproqit's various plugins—Calendar, Contacts, Mail, and Tasks (collectively, herein referred to as the "Sproqit System"). I have also studied the Sproqit System Architecture and various other technical documents and product literature describing Sproqit's products. [*See* Exhibit G, Sproqit WorkGroup Edition Administrator's Guide Version 1.0; *see* Exhibit H, Sproqit Personal Edition User Guide for the Palm OS; *see also* Exhibit K, Sproqit Personal Edition User Guide for the Pocket PC]. In particular, I have conducted a series of experiments, described below, intended to characterize the Sproqit System's observable behavior using Sproqit's Personal Edition and Sproqit's WorkGroup Edition.

8. Also, in preparation for this declaration, I have reviewed: Patent 6,085,192 (the '192 patent) and file history (attached as Exhibit C); the reexamination file history of the '192 patent (attached as Exhibit D) and the claims of the '192 patent as amended during reexamination (Exhibit D, Amendment Under 37 C.F.R. 1.116) and as published in the Reexamination Certificate issued on November 22nd, 2005; the cited prior art references from both the original prosecution and reexamination of the '192 patent; and the prior art references raised in the litigation between Visto and Seven Networks Inc. In addition, I have reviewed Judge Ward's Claim Construction Order from the Eastern District of Texas (civil case No. 2:03-CV-00333).[1]

C. Background of Technology & Visto's Invention

[1] Judge Ward's Claim Construction Order is attached to the Khaliq Declaration in Support of Visto's Preliminary Injunction ("Khaliq Decl.") ¶ 2 Exhibit A.

9. In 1996, local area networks (LANs) had been developed, and the ability to communicate with sites outside the LAN over the Internet had been implemented. However, at that time, few people in the computer industry were attempting to address, in a meaningful way, how computer networking within a LAN could be expanded to embrace a plethora of remote workers. In other words, as workers began employing laptops and handheld devices working from remote locations, the problems attendant with such activities in accessing and working on documents within the context of a LAN were not readily solvable. Some proprietary designs and IEEE standards bodies were considering the problem, but the proposed solutions generally involved introducing new and incompatible changes to low level Internet protocols and standards.

10. In 1996, serious impediments existed to extending the known technology to accommodate the widespread interaction with remote devices. One reason that additional tasks could not readily be performed was that so-called "firewalls" were in place to maintain security against unauthorized entry. Firewalls protect against unauthorized entry by permitting entry only by those communications that have been requested from inside the firewall, or explicitly authorized to enter through the firewall. Typically, firewalls have ports for passing HTTP (Hyper-Text Transfer Protocol) encoded messages, the standard high-level format for Internet web communications. Additional ports can be opened to allow remote devices to communicate with the LAN. However, each time a port is opened in the firewall to communicate openly with a remote device of any sort, the security risk to the LAN increases significantly. For this reason, since at least 1996, information technology specialists responsible for LANs have been extremely reluctant to employ software that requires enabling additional firewall ports for communicating with remote devices for purposes other than e-mail. In 1996, in fact, such remote communication for purposes other than e-mail was a very difficult problem with no truly satisfactory solution.

11. Visto's inventors solved this problem by using the already open HTTP port and/or HTTPS port (HTTP using SSL, the Secure Sockets Layer) to communicate with a secure global server outside the firewall. Commonly, the SSL port is used to securely communicate using HTTP protocol. That global server, in turn, communicates with whatever remote devices that wish to use the information and processing features contained within the LAN protected by the

firewall. By using the HTTP or SSL ports, Visto's inventions ensure that no additional ports in the firewall need to be opened. Documents are also synchronized so that material inside and outside the firewall are consistent. The result of this system is safety and security, wherein remote devices can access data and processing available behind the LAN firewall, making it possible to use the remote device just as though the user were in his or her own office. The '192 Patent, titled, "System and Method for Securely Synchronizing Multiple Copies Of a Workspace Element in a Network," addresses and solves the types of problems described above.

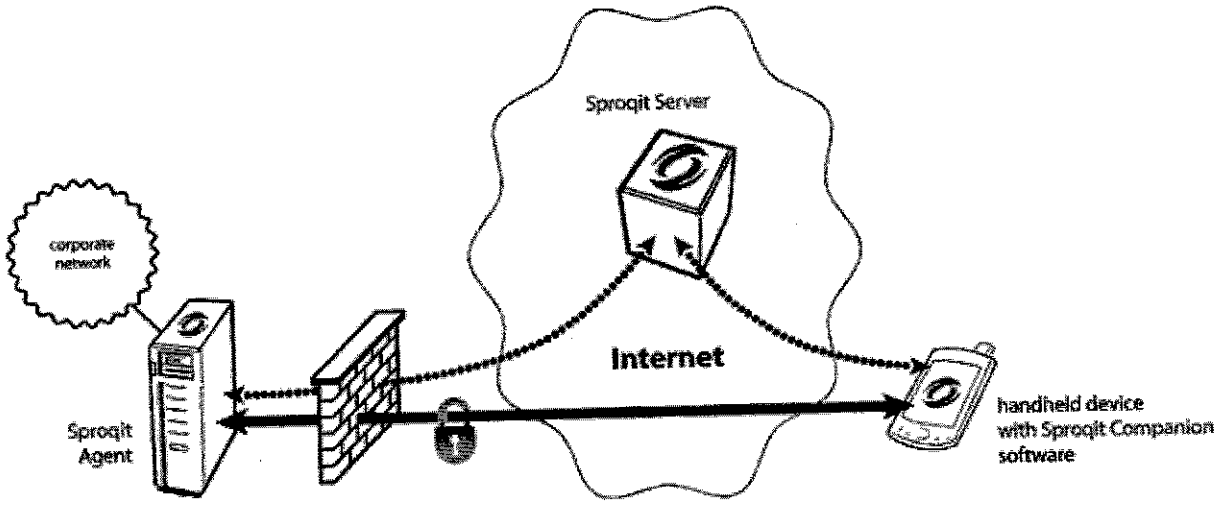
D. Sproqit's System

12. Sproqit's Personal Edition and WorkGroup Edition products enable individuals, work groups, companies, large enterprises and network operators to handle e-mail and other PIM communications between, for example, a local area network (LAN) secured behind a company's firewall and one or more remote devices used outside that firewall. Sproqit's products, like Visto's, provide software for messaging, connections, storage, and synchronization between remote devices and a computer residing on a local area network protected by a firewall.

13. The Sproqit System provides mobile workers real-time access to corporate applications such as PIM (personal information management) tools, corporate directories and documents, etc, enabled by messaging and collaboration platforms such as Microsoft Exchange and POP3 servers. The Sproqit System resides partly in the mobile operator network and on Sproqit servers elsewhere in the Internet. The Sproqit System provides real-time access to corporate data via two-way, over-the-air synchronization. The Sproqit System enables users to access the corporate data behind a firewall via multiple devices, including Palm OS-based or Microsoft Pocket PC-based data-enabled mobile phones, PDA's and other smart devices. The Sproqit System uses industry standard protocols transmitted over secure HTTP or SSL connections established between the Sproqit System and subscribers' desktop computers on a corporate network (LAN) behind a firewall.

14. A diagram of the basic Sproqit Architecture is illustrated below[2]:

[2] This diagram is available on Sproqit's website at: http://www.sproqit.com/architecture.htm.



The Sproqit System (as depicted in this architectural diagram) comprises the following components:

"Sproqit Companion" – A thin client (software) that resides on a handheld device.

"Sproqit Desktop Agent" – The agent (software) resides on the desktop or server behind a firewall. The agent allows the user to access and control data and information on their desktop or server. (This is for the Personal Edition. In the Workgroup Edition the corresponding element is called the "Sproqit Workgroup Agent," which connects in turn to multiple user desktops.)

"Sproqit Server" – The Sproqit Server authenticates and facilitates transactions between the wireless device and the corporate network.

"Sproqit Plug-Ins" – A thin layer between the native applications and the Sproqit Companions that allows the user to experience the application as though they were sitting at their desk. The Sproqit Plug-Ins include Mail, Calendar, Contacts, Tasks, among others.

15. I have conducted a series of experiments (described under the next heading) intended to characterize the Sproqit System behavior in a real-world setting. In order to emulate a typical Sproqit Personal Edition setup, I purchased and activated two smart phones at a Sprint PCS store, one based on a Palm operating system (OS) and the other on a Windows Mobile OS; purchased and set up a hardware firewall connected to the Internet by a DSL phone line; purchased and set up a computer based on Windows XP Home Edition with Outlook 2003 and all current updates running inside the firewall; set up an email account ("Inside User") on a

Microsoft Exchange server to be accessed only from inside the firewall; and set up a web-based email account ("Outside User") outside the firewall and outside the Sproqit setup to serve as an exemplary source and destination for Sproqit email messages to go out to and come in from the outside world. I then downloaded the Sproqit Personal Edition and, following the installation instructions, installed the Sproqit Desktop Agent on the computer behind the firewall and from that installed the Sproqit Companion on both smart phones which were docked to the computer for that purpose. After installation, the smart phones operated undocked outside the firewall and communicated with the computer inside the firewall only by way of the Sprint PCS data network, the Sproqit Server(s), and the Internet. I observed that the Sproqit Desktop Agent connected through the firewall using an SSL port, port 443. Although irrelevant to the current purposes, the smart phones could also be directly docked to the computer behind the firewall for non-Sproqit uses as desired by the user. In order similarly to emulate a typical Sproqit Workgroup edition I purchased a Palm-based smart phone from Sprint; I set up a computer based on Microsoft Windows XP Pro, running Microsoft Outlook 2003, with all current updates, running inside the same firewall; I purchased a Sproqit Workgroup Edition with 5 licenses directly from Sproqit, and installed it as described in the furnished Administrator's Guide; and I used similarly configured email accounts using Microsoft Exchange. The details of this hardware and software are listed in Exhibit E to this declaration.

E. Experiments Using Sproqit's System

16. The experiments described in the Tests and screen shots below are representative of the general behavior that I have observed in the Sproqit Personal Edition which infringes claim 10 of Visto's '192 patent. I have found these experiments to be repeatable at will, so anyone with a default installation of the Sproqit Personal Edition should be able to duplicate them, at least with a configuration similar to the one I used. [*See* Exhibit E attached to this declaration for the hardware, software and wireless carrier used for testing Sproqit Personal Edition].

17. Similar experiments were performed using the Sproqit WorkGroup Edition. [*See* Exhibit E attached to this declaration for the hardware, software and wireless carrier used for testing Sproqit WorkGroup Edition]. WorkGroup Edition is a Sproqit product which is designed

to handle multiple users on a corporate or small business network. [*See*, Ex. G, Sproqit WorkGroup Edition Administrator's Guide Version 1.0 at 1]. My testing of WorkGroup Edition confirmed that its behavior was equivalent to that of Sproqit Personal Edition with additional capabilities, in particular the ability to handle multiple users. For the same reasons identified below for Sproqit Personal Edition, Sproqit WorkGroup Edition also infringes claim 10 of the '192 patent.

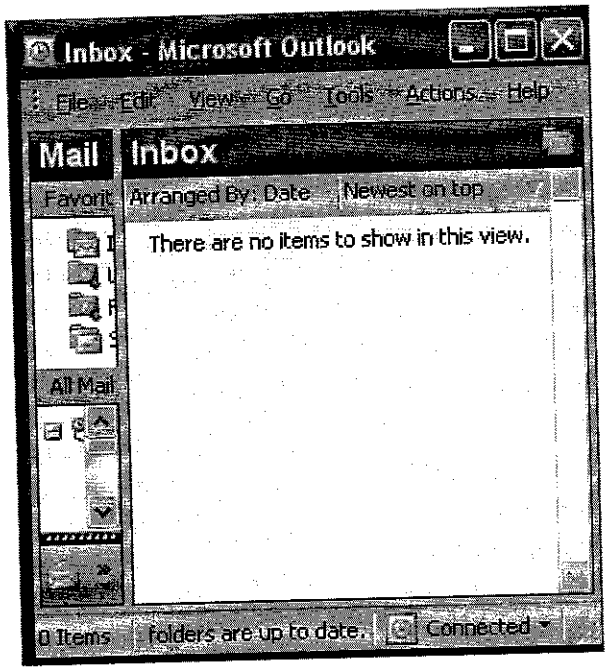
18. I chose to run the experiments shown in the screen shots below by connecting and disconnecting the smart phone between steps. This was primarily to make the independent modifiability of the workspace element and its copy visible. When the smart phone stays connected, the synchronization takes place too quickly to track easily, usually within a minute or so. Nonetheless, I observed the same behavior when working with the smart phone connected throughout. I found Sproqit infringed the Visto claim at issue either way, that is, working online or offline.

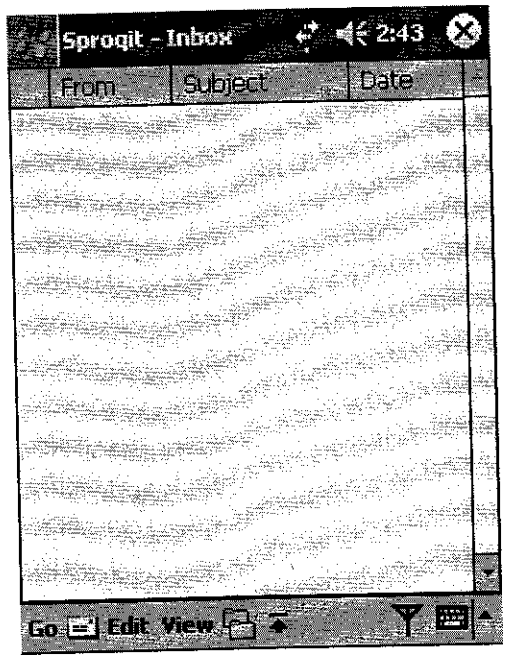
19. I also chose to focus these experiments on email behavior, again because of the visibility of the modifications to the workspace elements at either end. In related testing I found equivalent behavior in cross-editing email drafts, where some modifications on the desktop were followed by additional modificationss on the smart phone, or vice-versa. I also found equivalent behaviors in independently modifying calendar entries, contacts, and tasks, both while working partially offline and while working completely online. I found that Sproqit infringed the Visto claims at issue in these other applications (or "plug-ins" as Sproqit calls them) as well.

20. In order to demonstrate the functionality of the Sproqit System in summary form for this declaration, I carried out the following experiments depicted in the "Test" Pocket PC-based smart phone screen shots below:

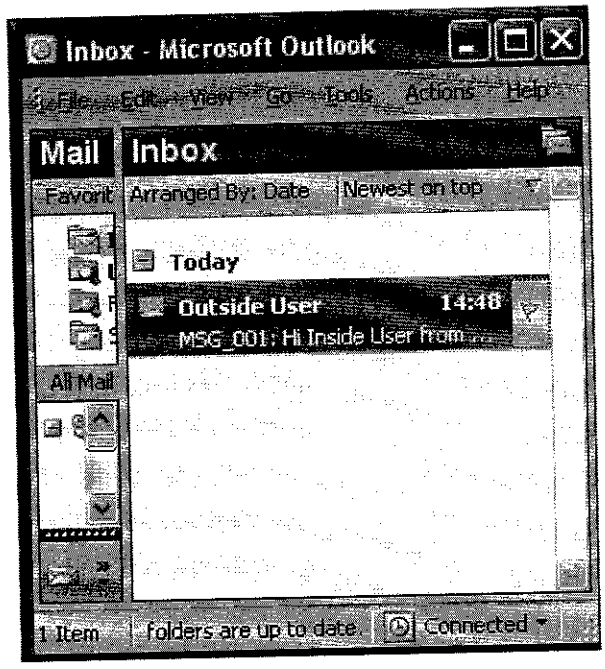
Test 1: Start with empty Inbox on PC and smart phone.[3]

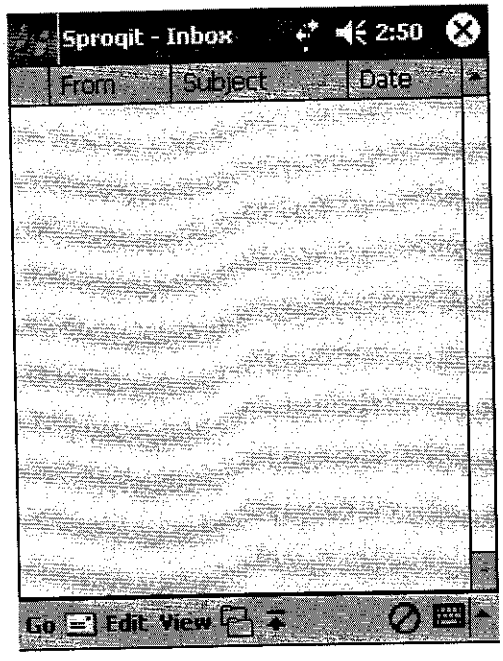
[3] It should be noted that the connected status of the Sproqit Companion on the PPC-based smart phone is represented by an antenna symbol on the bottom right hand corner of the smart phone. When the Sproqit Companion is disconnected from the Sproqit Desktop Agent (i.e., in offline mode) a red-barred circle appears in lieu of the antenna symbol.





Test 2: Disconnect the Sproqit Companion on smart phone and send mail from the "Outside User"[4] to the "Inside User."[5] Observe unopened (unread)[6] mail on Inbox in Microsoft Outlook on PC inside firewall.





Test 3: Connect Sproqit Companion. Observe unopened message on PC and smart phone.

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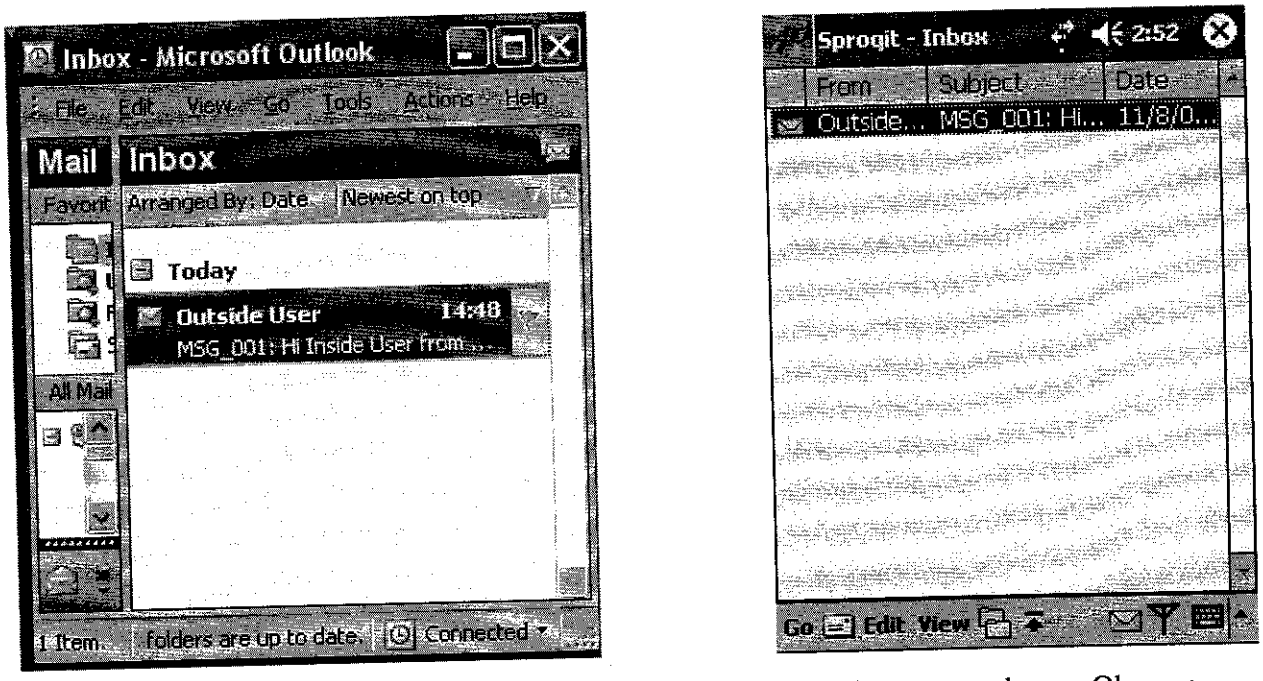
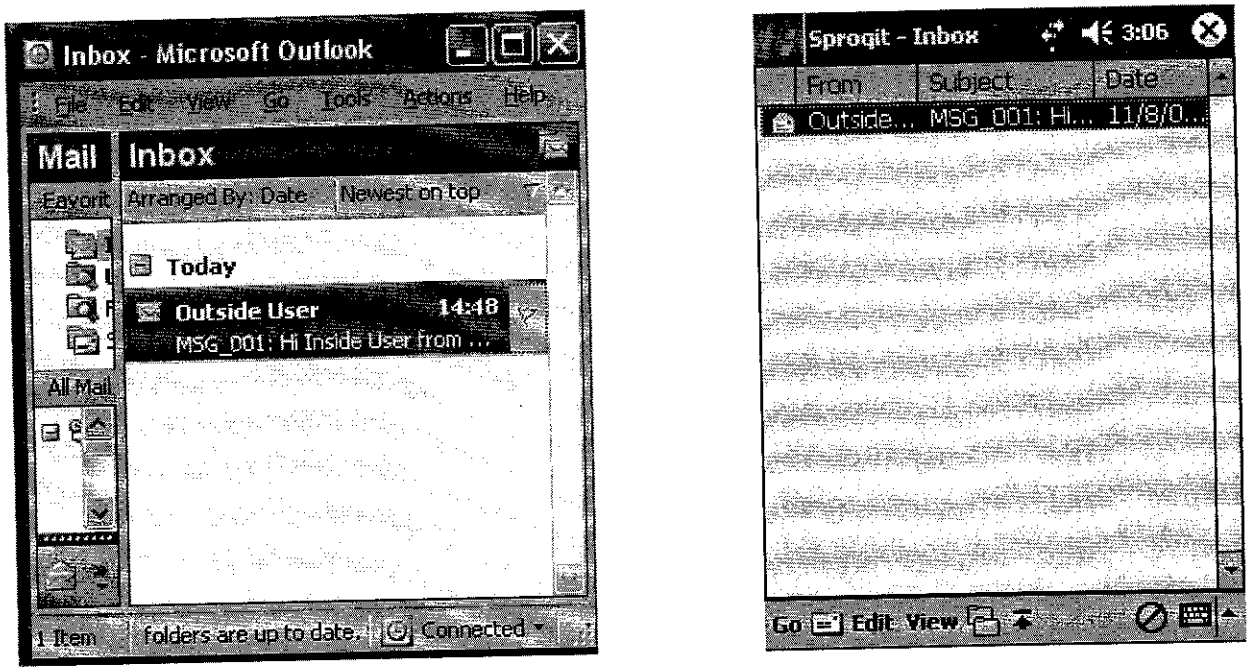
[4] "Outside User refers to the web e-mail account referred to above in paragraph 15.

[5] "Inside User" refers to the Microsoft Outlook e-mail account used within the firewall referred to above in paragraph 15.

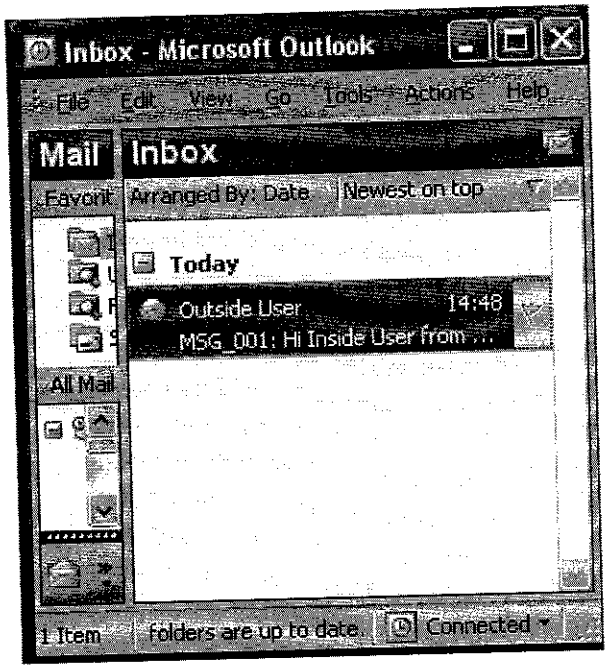
[6] "Unread" mail is depicted by a closed enveloped and "read" mail is depicted by an open envelope.

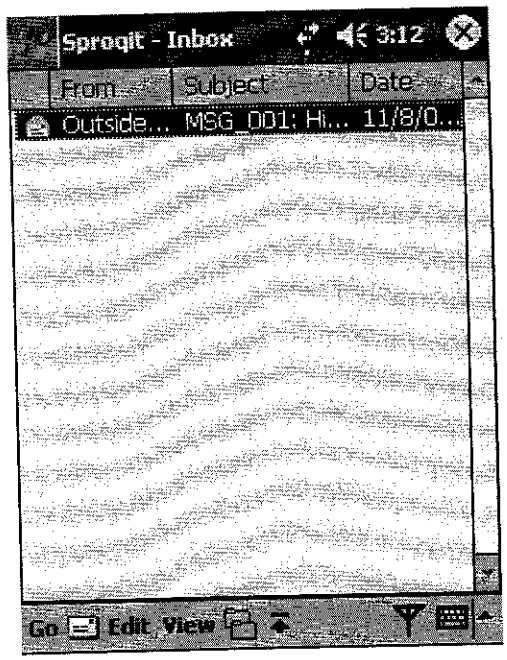


Test 4: Disconnect Sproqit Companion. Open unread mail on smart phone. Observe opened mail on smart phone. Observe copy of e-mail at PC inside firewall in unopened status.

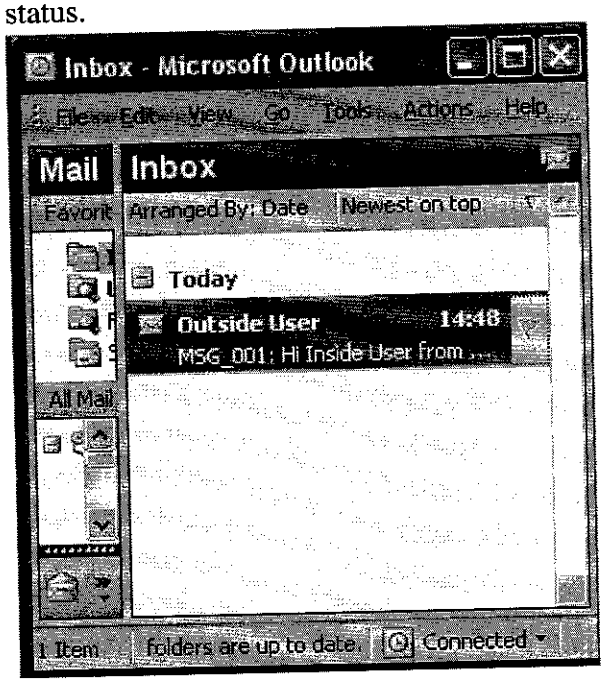


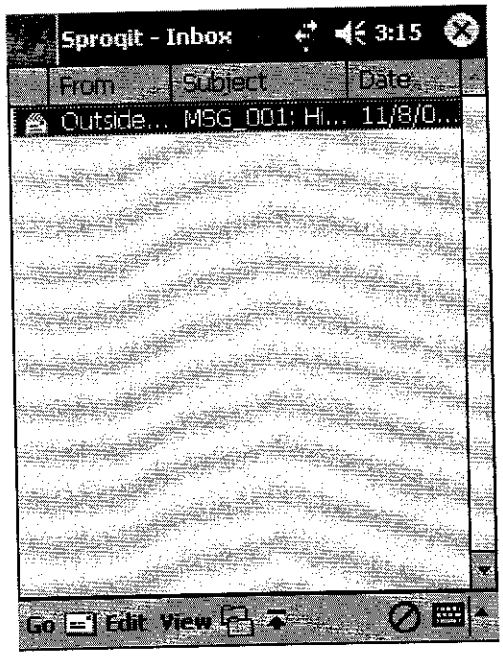
Test 5: Reconnect Sproqit Companion. Observe copy of message at the PC inside firewall change to opened (read) status. Observe that change from Sproqit Companion has thus been incorporated by the Sproqit Desktop Agent.



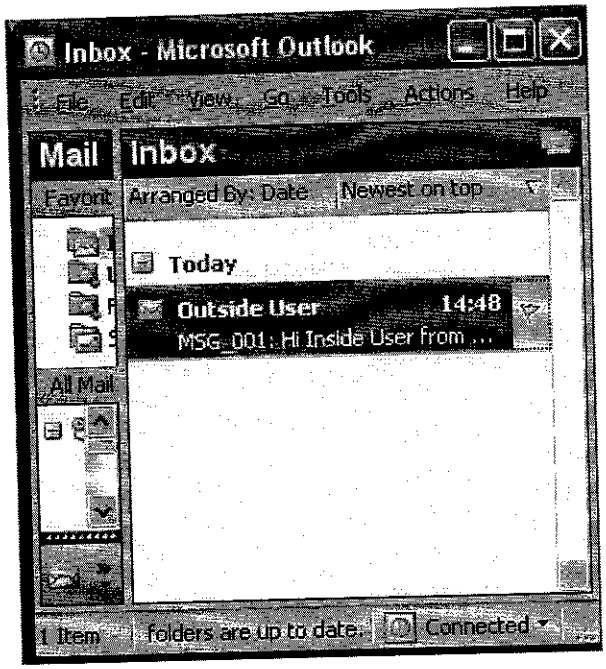


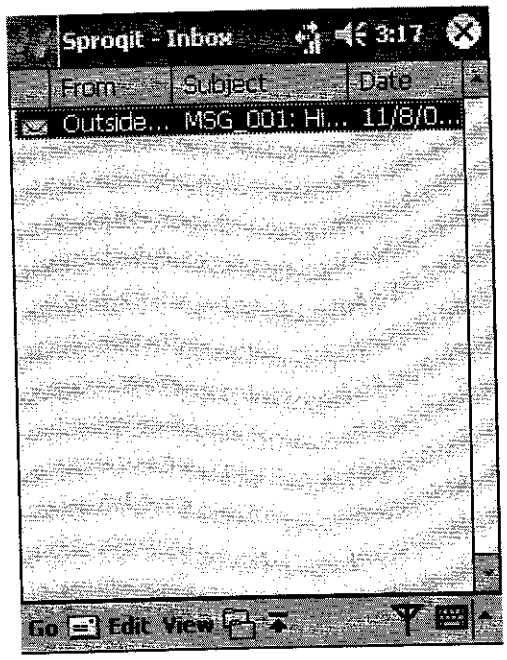
Test 6: Disconnect Sproqit Companion and mark e-mail unread in Outlook at the PC. Observe e-mail at PC in unopened status and copy of e-mail at smart phone in opened (read) status.





Test 7: Reconnect the Sproqit Companion. Observe e-mail at PC and the copy of the e-mail at smart phone both in unopened (unread status). Note that change from Sproqit Desktop Agent has been propagated to the Sproqit Companion.





F. Legal Context—Infringement

21. I understand that a patent infringement analysis involves two steps. First the Court determines the scope and meaning of the patent claims asserted, and then the properly construed claims are compared to the allegedly infringing device.[7] I am basing my understanding of the claim terms at issue here on a Claim Construction order issued by Judge Ward in a concurrent case between Visto and Seven Networks Inc.[8] My analysis is directed to the second step of the infringement analysis: the comparison of the Sproqit System to the claims, as previously construed.

22. I understand that literal direct infringement requires that every element of the patent claim must be found in the accused device.[9] Some claim elements are referred to as "means-plus-function" elements.[10] Means-plus-function elements are claimed as a means for performing a specified function, in which case the claim element covers the structures for

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[7] *Cybor Corp. v. FAS Techs.*, 138 F.3d 1448, 1454 (Fed. Cir. 1998)

[8] Claim terms highlighted in bold reflect terms that have been construed in Judge Ward's Claim Construction Order in the Eastern District of Texas on April 20, 2005 (Case 2:03-CV-00333) attached as Khaliq Decl. ¶2 Ex. A.

[9] *Uniroyal, Inc. v. Rudkin-Wiley Corp.*, 837 F.2d 1044, 1054 (Fed. Cir. 1988); *Mannesmann Demag Corp. v. Engineered Metal Products Co.*, 793 F.2d 1279, 1282 (Fed. Cir. 1986); *Stewart-Warner Corp. v. City of Pontiac*, 767 F.2d 1563 (Fed. Cir. 1985).

[10] 35 U.S.C. § 112, ¶6.

performing the specified function that are expressly disclosed in the specification and corresponding equivalents.[11] Only those portions of the corresponding structures described in the Specifications of the patents-in-suit that are necessary to perform the claimed function are part of the means element.[12]

23. I understand that contributory infringement arises when one "sells within the United States . . . a component of a patented machine . . . knowing the same to be especially made or especially adapted for use in an infringement of such patent, and not a staple article or commodity of commerce suitable for substantial noninfringing use."[13] An example of contributory infringement is that Sproqit makes, uses, and sells software that it knows is specially designed to run the system that infringes the asserted claim, and such software has no substantial use other than as part of the system. Infringement by inducement arises when one acts in a way that one knows or should have known would induce others to directly infringe.[14] An example of infringement by inducement is that Sproqit makes, uses, and sells software that encourages and aids others to assemble and run the system that infringes the asserted claim. Accordingly, Sproqit is an infringer whether its acts directly infringe or contribute to or induce infringement by others.

24. I understand that under the doctrine of equivalents, a product or process that is not literally the same as the express terms of a patent claim may nonetheless be found to infringe if there is "equivalence" between the elements of the accused product or process and the claimed elements of the patented invention.[15] A patent claim may be infringed by equivalence if an element of the infringing device is substantially the same as a limitation of the patent claim.[16] An important factor is whether persons reasonably skilled in the art would have known of the interchangeability of an ingredient not contained in the patent with one that was.[17] Equivalence may be found where hardware and software implementations of a component of an invention are

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[11] *Symbol Technologies, Inc. v. Opticon, Inc.*, 935 F.2d 1569, 1575 (Fed. Cir. 1991); *see* discussion of equivalents *infra*.
[12] *See Northrop Grumman Corp. v. Intel Corp.*, 325 F.3d 1346, 1352 (Fed. Cir. 2003).
[13] 35 U.S.C. § 271(c); *Golden Blount, Inc. v. Robert H. Peterson Co.*, 365 F.3d 1054, 1061 (Fed. Cir. 2004).
[14] 35 U.S.C. § 271(b); *Golden Blount*, 365 F.3d at 1061.
[15] *Warner-Jenkinson Co. v. Hilton Davis Chem. Co.*, 520 U.S. 17, 21 (U.S. 1997).
[16] *Id.* at 29.
[17] *Id.* at 25.

interchangeable substitutes, even though such a substitution would require ancillary changes in affected circuitry and packaging.[18] Rather than focusing on physical or electronic compatibility, the known interchangeability test looks to the knowledge of a skilled artisan to see whether that artisan would contemplate the interchange as a design choice.[19] In addition, where functions are distributed in an accused device, two or more physical components of the accused device may be viewed in combination to serve as an equivalent of one element of a claimed invention.[20] Similarly, a claim describing a combination of components does not require that the function of each be performed by a separate structure in the infringing apparatus; one component of an infringing apparatus may perform the function of more than one claim element.[21] Equivalence may also be found where the function, structure or position of two claim elements are reversed or transposed in the accused product.[22] The proper time for evaluating equivalency is at the time of infringement, not at the time the patent was issued.[23]

25. Unless otherwise noted, my opinion that a claim element is present in Sproqit's System includes the opinion that the claim element is present literally and equivalently. Accordingly, my conclusions that each and every element of the asserted claim is present in Sproqit's System supports a finding that the asserted claim is infringed directly, contributorily, and/or by inducement, and that such infringement is literal and/or by equivalence.

G. Sproqit's System Infringes Claim 10 of the '192 Patent

26. Claim 10 of the '192 patent reads as follows[24]:

A system comprising:

a **communications channel**[25] through a **firewall**[26] comprising one of an

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[18] *Interactive Pictures Corp. v. Infinite Pictures, Inc.*, 274 F.3d 1371, 1383 (Fed. Cir. 2001).
[19] *Id.*
[20] *Riles v. Shell Exploration & Prod. Co.*, 298 F.3d 1302, 1310 (Fed. Cir. 2002).
[21] *Sun Studs v. ATA Equip. Leasing*, 872 F.2d 978, 989 (Fed. Cir. 1989).
[22] *Sanitary Refrigerator Co. v. Winters*, 280 U.S. 30, 42 (U.S. 1929).
[23] *Warner-Jenkinson Co.* 520 U.S. at 37.
[24] Claim terms previously construed in the Claim Construction Order are highlighted in bold.
[25] "Communications channel" has been previously construed as: "a medium for transferring information." A communications channel can be a physical or wireless link." [Khaliq Decl. ¶ 2, Ex. A Claim Construction Order at 11]

HTTP port and an SSL port;

a **general synchronization module**[27] for operating within the first **firewall** and for examining first **version information**[28] to determine whether a first **workspace element**[29] at a first **store**[30] has been modified;

a **synchronization agent**[31] for operating outside the first **firewall** and for forwarding to the **general synchronization module** second **version information** which indicates whether an **independently modifiable copy**[32] of the first **workspace element** at a second **store** on a smart phone has been modified;

a **synchronization-start module**[33] for operating within the first **firewall** and for initiating the **general synchronization module** and the **synchronization agent** when predetermined criteria have been satisfied;

means for generating a preferred version[34],[35] from the first **workspace element** and from the copy by comparing the first **version information** and the second **version information**, wherein if only one of the first **workspace element** and the copy has been modified, then the means for generating selects the one as the **preferred version**; and

means for storing the preferred version[36] at the first **store** and at the second **store.**

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[26] "Firewall" has been previously construed as "software and/or hardware for protecting an organization's network against external threats, such as hackers, coming from another network, such as the Internet." [*Id.* at 14].

[27] "General Synchronization Module" has been previously construed as: "software routines or code that perform the task of determining whether a workspace element and/or an independently modifiable copy thereof has (or have) been modified, based on one or more criteria." [*Id.* at 15].

[28] "Version Information" has been previously construed as "information that can be used to determine the version of a workspace element." [*Id.* at 26].

[29] "Workspace element" has been previously construed as: "a subset of workspace data such as an e-mail, file, bookmark, calendar, or applications program which may include version information." [*Id.* at 20].

[30] "Store" has been previously construed as: "a storage location for data that may reside on any type of memory device." The court declines to define further the terms "first store" and "second store." [*Id.* at 23].

[31] "Synchronization agent" has been previously defined as: "software routines or code that send a least portion of second version information to a general synchronization module for purposes of synchronization." [*Id.* at 24].

[32] "Independently modifiable copy" has been previously defined as: "a copy of a workspace element capable of being modified independent of the workspace element. The copy of the workspace element does not have to be in the same format as the workspace element." [*Id.* at 16].

[33] "Synchronization start module" has been previously defined as: "software routines or code which initiate the synchronization process." The court does not read the claims or the specification to require, necessarily, that the synchronization start-module be located within a firewall-protected corporate LAN. [*Id.* at 26].

[34] "Preferred version" has been previously defined as: "a version of a workspace element that is generated or selected from one or more versions." [*Id.* at 26].

[35] "Means for generating a preferred version" corresponds to the general synchronization module 425. [*Id.*at 30]

[36] In the previous Claim Construction Order, the court has stated that the structure corresponding to the "means for storing the preferred version" is the general synchronization module 425.

27. A claim chart detailing how each and every element of claim 10 of the '192 patent is present in the Sproqit System is attached to this declaration as Exhibit B. The first element of claim 10 requires a "communications channel through a firewall comprising one of an HTTP port and an SSL port." In *Visto v. Seven*, the Court defined a "communications channel" as a "medium for transferring information," which "can be any physical or wireless link." [Khaliq Decl. ¶2, Ex. A Claim Construction Order at 11 ("Claim Construction Order")]. The Sproqit Desktop Agent establishes a communications link using an SSL port through a firewall. This is asserted by Sproqit both in its documentation and in its website. [*See*, Ex. F, http://www.sproqit.com, Architecture.htm and Products_spe.htm and Products_swe.htm pages]. Furthermore, in the Sproqit System setup and experiments described above, I observed the Sproqit Desktop Agent connecting through the firewall to the smart phone. By examination of packets sent through the firewall I observed that the Sproqit Desktop Agent used port 443 as its SSL port. [*See Id.*, Ex. I, Network Packet Transfer Log ("packet sniffer")].

28. The second element of claim 10 of the '192 requires "a general synchronization module for operating within the first firewall." The court has defined the general synchronization module as "software routines or code that perform the task of determining whether a workspace element and/or an independently modifiable copy thereof has (or have) been modified, based on one or more criteria." [Claim Construction Order at 15]. The court has defined "firewall" as "software and/or hardware for protecting an organization's network against external threats, such as hackers, coming from another network, such as the Internet." [*Id.* at 11]. The Sproqit Desktop Agent, residing behind the firewall, working in conjunction with Exchange, performs the task of determining whether a workspace element or independent modifiable copy of a workspace element has (or have) been modified, incorporates a general synchronization module. [*See* Ex. J, Sproqit Architecture ([f]unctions of the Sproqit Desktop Agent include: notifying application of relevant events, keeping track of what the Sproqit Companion has cached, streaming data between the applications and the Sproqit Companion)].

The second element also requires that the general synchronization module examine "first version information." The court has defined "version information" as "information that can be

used to determine the version of a workspace element." [*Id.* at 26]. "Workspace element" has been construed as "a subset of workspace data such as an e-mail, file, bookmark, calendar, or applications program which may include version information." [*Id.* at 20]. Accordingly, a workspace element can be represented, for example, by either an e-mail folder or an individual e-mail. The term "e-mail" refers to the message headers, the message body, status indicators (such as (opened/unopened, deleted/undeleted, and other parameters such as urgency, and other message or system dependent parameters, etc.). For example, in the e-mail experiment described above, the Sproqit Desktop Agent examines version information by examining the e-mail inbox at the Exchange Server to determine whether new messages have arrived or changes have been made to the e-mail inbox folder. [*See* Test 2; *see also* Ex. H, Sproqit Personal Edition User Guide for the Palm OS ("Sproqit will monitor changes to your default mail folders (Inbox, Outbox, Drafts, Deleted Items and Sent Items) and automatically update your Companion with new messages, etc.")]. Also, the status of whether an e-mail has been read or unread is an example of version information which is examined by the general synchronization module incorporated within the Sproqit Desktop Agent. [*See* Test 4 & 5; *see also* Ex. H, Sproqit Personal Edition User Guide for the Palm OS ("Both Sproqit and Outlook/Express store status about messages locally (e.g. read/unread[])"].

The claim further requires a "first workspace element at a first store." The court has defined store as "a storage location for data that may reside on any type of memory device." [Claim Construction Order at 23]. For example, in Sproqit's System, this may correspond to an e-mail or e-mail folder (workspace element) residing at a Microsoft Exchange Server (first store), which can be seen in Microsoft Outlook [*See* Ex. H, Sproqit Personal Edition User Guide for the Palm OS at 4 (depicting Sproqit Desktop Agent connected to "Data Store").

The claim requires that the version information indicate whether the first workspace element "has been modified." The court has defined "modifications" as "changes to a workspace element or an independently modifiable copy of the workspace element." [*Id.* at 18]. In the Sproqit System and e-mail experiment described above, the arrival of a new message at the "Inside User's" e-mail inbox folder at the Exchange Server represents a modification to the first

workspace element. [*See* Test 2]. The general synchronization module at the Sproqit Desktop Agent examines the status of the inbox (version information), to determine whether there are any changes. [*See* Ex. H, Sproqit Personal Edition User Guide for the Palm OS ("Sproqit will monitor changes to your default mail folders (Inbox, Outbox, Drafts, Deleted Items and Sent Items) and automatically update your Companion with new messages, etc.")]. In addition, the read/unread status of an individual e-mail corresponds to the version information of that e-mail indicating whether it has been modified by the user. In Sproqit's System, when a change is made to the e-mail at the user's PC inside the firewall, the Sproqit Desktop Agent examines version information of that e-mail to detect such modifications [*See* Test 6; *see also* Ex. H, Sproqit Personal Edition User Guide for the Palm OS ("Sproqit will monitor changes to your default mail folders (Inbox, Outbox, Drafts, Deleted Items and Sent Items) and automatically update your Companion with new messages, etc.")].

29. The third element of claim 10 requires a "synchronization agent for operating outside the first firewall." The court has defined "synchronization agent" as "software routines or code that send at least a portion of second version information to a general synchronization module for purposes of synchronization." [Claim Construction Order at 24]. For example in the Sproqit System, the Sproqit Companion installed on the smart phone outside the firewall and/or the Sproqit Server incorporate a synchronization agent which forwards second version information to a general synchronization module. [*See e.g.*, Ex. H, Sproqit Personal Edition User Guide for the Palm OS at 3 ("[t]he Desktop Agent asks the Sproqit Companion for the data you request, sends changes to your server to make in desktop applications; the Sproqit Companion contains enough application logic so that whatever you do in Sproqit Plugins on your Palm device is reflected on your desktop immediately, (or, if your [sic] working offline, as soon as you reestablish a wireless connection.")].

The claim language further requires a "second store on smart phone." For example, in the Sproqit System, the smart phone contains a second store. The claim element also specifies a "copy of the first workspace element" at the second store. In the e-mail experiment described above, when the Sproqit Companion connects to the Sproqit Desktop Agent, a copy of the e-mail

from the Exchange Server is stored on the smart phone. [*See* Test 3]. Another condition of this claim element is that the synchronization agent forward "to the general synchronization module second version information" indicating whether the copy of the first workspace element at the second store has been modified. In the e-mail experiment, for example, the second version information can correspond to whether the e-mail copy has been opened (read) or unopened (unread). [*See* Test 4]. In Sproqit's System the synchronization agent on the Sproqit Companion and/or the Sproqit Server determines whether the version of the copy has changed and forwards these changes to the Sproqit Desktop Agent. [*See* Test 4 & 5]. The claim also specifies that the copy must be "independently modifiable." For example in the Sproqit System, the e-mail on the smart phone can independently be changed from unopened (unread) to opened (read) [*See* Test 4]. Further evidence of independent modifiability is shown in Sproqit's off-line mode where the smart phone is disconnected from the network. [*See Id.*].

30. The fourth claim element requires a "synchronization-start module for operating within the first firewall." The court has defined "synchronization start module" as "software routines or code which initiate the synchronization process." [Claim Construction Order at 26]. In Sproqit's System, a synchronization start module resides in the Sproqit Desktop Agent operating within the firewall. The claim requires that the synchronization-start module "[initiate] the general synchronization module and the synchronization agent." For example, in Sproqit's System the synchronization start module in the Sproqit Desktop Agent initiates the general synchronization module at the Sproqit Desktop Agent when an e-mail arrives or changes are made to the user's inbox folder at the Exchange Server, as seen using Microsoft Outlook. [*See* s 3 & 6]. The synchronization start module at Sproqit Desktop Agent further initiates the synchronization agent at the Sproqit Companion and/or the Sproqit Server when an e-mail is generated or changed as seen in Outlook, or when a new message arrives in the user's inbox at the Exchange Server.[37] [*See* Test 6; *see also* Ex. H, Sproqit Personal Edition User Guide for the

[37] To check that the Sproqit Desktop Agent incorporates a "synchronization start" component that, operating within the firewall, initiates the synchronization steps at both "general synchronization module" within the firewall and the "synchronization agent" outside the firewall, I used the Companion's connection status indicators on the smart device. These indicate whether the device is sending and receiving wireless traffic (shown as "3G Active") or not (shown as "3G Dormant").

Palm OS at 3 ("The Desktop Agent asks the Sproqit Companion for the data you request...;[t]he Desktop Agent pushes requested information down to the device, where the Sproqit Companion displays it in various 'forms.'"); *see also* Ex. G, Sproqit WorkGroup Agent Administrator's Guide Version 1.0 at 4 (2000-2005) ("Pushing data to the Sproqit Companion and querying the Sproqit Companion for the data the end user requests.")][38]. In this context, to one of ordinary skill in the art, the term "push" means that the Sproqit Agent pushes the data to the Companion and initiates data synchronization.

A final condition of this claim element is that the initiation occur "when predetermined criteria have been met." In Sproqit's System, predetermined criteria can be met, for example, when an e-mail arrives, an e-mail is modified or edited, or when changes are made to a user's e-mail folders. [*See e.g.,* Ex. H, Sproqit Personal Edition User Guide for the Palm OS at 15 ("Sproqit will monitor changes to your default mail folder's inbox, Outlook, Drafts, Deleted Items and Sent Items) and automatically update your Companion with new messages, etc.")].

31. The fifth element of claim 10 requires a "means for generating a preferred version from the first workspace element and from the copy." The court has specified that the structure, material or acts of the "means" element corresponds to the general synchronization module 425 described in the '192 patent. [Claim Construction Order at 30]. The court has defined a "preferred version" as "a version of a workspace element that is generated or selected from one or more versions." [*Id.* at 26]. The first workspace element, can be represented, for example, by a particular e-mail in Exchange. [*See* Test 2]. The copy, is for example, the copy of that particular e-mail on the smart phone. [*See* Test 3]. A preferred version could be represented by either one of the workspace element or the copy. This is seen, for example, when a message is opened on the Sproqit Companion, and the read status of the e-mail is incorporated back at the Sproqit Desktop Agent, changing the status of the e-mail at the Exchange Server to "read," and thus generating a preferred version. [*See* Test 5].

The claim element further requires, "comparing the first version information and the

[38] Sproqit documentation defines "push data" as: "[d]ata that is sent to a client computer from the host without a client computer request is "push" data. For example, the Workgroup Agent pushes new email messages to connected handheld devices." [*See* Head Decl., Ex. G, Sproqit WorkGroup Edition Administrator's Guide, Version 1.0]

second version information." The first version information and the second version information, is for example, the opened and unopened status of the e-mail at Exchange and the copy of the e-mail on the smart phone, respectively.[39] If for example, an opened e-mail in the user's inbox folder as seen by Outlook at the desktop PC is subsequently marked unread, software modules within the Sproqit Desktop Agent compare the first and second version information and generate a preferred version which replaces the version of that e-mail on the Sproqit Companion. [*See* Tests 6 &7] Furthermore, the claim specifies that "if only one of the first workspace element and the copy has been modified, then the means for generating selects the one as the preferred version." This is met in Sproqit's System, for example, if the copy of the e-mail in the smart phone's inbox has not been modified, and the e-mail on the user's inbox as seen through Outlook has been read. In this scenario, the Sproqit Desktop Agent selects the modified e-mail at the Exchange Server e-mail folder as the preferred version. [*See Id.*].

32. The final element of the claim requires a "means for storing the preferred version at the first store and at the second store." The court has construed the structure, material, or acts corresponding to the "means" element as the general synchronization module 425 described in the '192 patent. In Sproqit's System, the Sproqit Desktop Agent, which incorporates a general synchronization module, stores the preferred version of an e-mail at the Exchange Server's inbox (first store) and the Sproqit Companion stores the preferred version of the e-mail at the smart phone's inbox (second store).[40] [*See* Test 6 & 7].

H. Legal Context—Validity

33. I understand that a patent is presumed valid and that the burden on the party asserting invalidity of a patent is especially difficult when the prior art has been considered by the patent office.[41],[42] I have been informed that for a patent claim to be found invalid, it must be either anticipated or rendered obvious by the prior art. A claim is anticipated under 35 U.S.C. §

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[39] In Sproqit's Offline Mode, the version information can be independently changed at either store and such independent changes will remain in effect until a connection is reestablished.

[40] In Sproqit's Offline Mode, the storage of the preferred version is deferred until reconnection, at which point the storage occurs.

[41] 35 U.S.C. § 282

[42] *Hewlett-Packard Co. v. Bausch & Lomb*, 909 F.2d 1464, 1467 (Fed. Cir. 1990)

102(a) if the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for patent. A claim is anticipated under 35 U.S.C. § 102(b) if the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of the application for patent in the United States.

34. I understand that the party asserting that patent claims are invalid as being anticipated must show by clear and convincing evidence that each element of a claim at issue is contained in a single prior art reference.[43] I have been informed that extrinsic evidence may be used to establish inherency.[44] However, the extrinsic evidence must make clear that the missing descriptive material is necessarily present in the single reference, and that it would be so recognized by persons of ordinary skill.[45] I have been informed that inherency may not be established by probabilities or possibilities.[46] The mere fact that a certain thing may result from a given set of circumstances is not sufficient.[47] I also understand that the role of extrinsic evidence is to educate the decision-maker as to what the reference meant to persons of ordinary skill in the art, not to fill gaps in the reference.[48]

35. I have been informed that the knowledge or use of an invention must be accessible to the public.[49] It must be done openly and in the ordinary course of business activities without any deliberate attempt at concealment or effort to exclude the public at large.[50]

36. The prior art reference must also enable one of ordinary skill in the art to practice the invention.[51]

37. Under 35 U.S.C. § 103, if all of the limitations of a claim are not disclosed in a single prior art reference, the claim may yet be invalid if the differences between the subject

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[43] *WMS Gaming Inc. v. International Game Tech.*, 184 F.3d 1339, 1355 (Fed. Cir. 1999)
[44] *In re Robertson*, 169 F.3d 743, 745 (Fed. Cir. 1999)
[45] *Continental Can Co. v. Monsanto Co.*, 948 F.2d 1264, 1268 (Fed. Cir. 1991).
[46] *Id.* at 1269.
[47] *Id.* at 1269.
[48] *See Studiengesellschaft Kohle, mb H v. Dart Industries, Inc.*, 726 F.2d 724, 727 (Fed. Cir. 1984)
[49] *Woodland Trust v. Flowertree Nursery*, 148 F.3d 1368, 1370 (Fed. Cir. 1998).
[50] *See Rosaire v. Baroid Sales Div., Nat'l* Lead Co., 218 F.2d 72, 74 (5th Cir. 1955); *see also W.L. Gore & Associates, Inc. v. Garlock, Inc.* 721 F.2d 1540, 1550 (Fed. Cir. 1983).
[51] *See Amgen, Inc. v. Hoechst Marion Roussel, Inc.*, 314 F.3d 1313,1354 (Fed. Cir. 2003).

matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. To render a claim invalid as being obvious, the prior art must contain some suggestion that would motivate a person of ordinary skill in the art to combine the relevant teachings in order to arrive at the claimed invention.[52]

I. Claim 10 of the '192 Patent is Valid in View of the Prior Art

38. As a person with a Ph.D. specializing in Signal Detectability Theory, and having several years of education and experience in computer science, information technology and networks, I would consider myself an expert in the field and thus at least a person of ordinary skill in the art.

39. I have reviewed the prior literature cited in the original prosecution of the '192 patent and have determined that none of the patents, publications and references of record recite all the elements of claim 10 of the '192 patent, as properly construed, and as set forth in that claim.

40. I have also reviewed the prior art literature cited in the Reexamination of the '192 patent and have concluded that the none of the patents, publications and references of record recite all the elements of claim 10 of the '192 patent, as properly construed, and as set forth in that claim.

41. In addition, I have reviewed the prior art raised in the litigation between Visto and Seven Networks Inc., and have opined that none of the references cited in that case recite all the elements of claim 10 of the '192 patent, as properly construed, and as set forth in that claim. [*See* Ex. L, Declaration of Sabin Head in Support of Visto's Motion for Summary Judgment (Expert Rebuttal Report attached as Exhibit M); *see also* Ex. M, Rebuttal Expert Report of Dr. Sabin Head].

42. Furthermore, in my review of the references cited in prosecution of the '192 patent as well as my general review of literature in the Internet communications field, I have found no

[52] *In Re Vaeck*, 947 F.2d 488, 493 (Fed. Cir. 1991)

references more material to the patentability of the relevant claims of the '192 patent than the documents considered by the Examiner during the prosecution of that application.

43. Additionally, none of the prior art documents I have reviewed in connection with the '192 patent contain any teaching or suggestion that separate elements selected from the various prior art documents could be combined in the manner set forth in claim 10 of the '192 patent.

44. It is my opinion, therefore, that the subject matter in claim 10 of the '192 patent is neither anticipated nor obvious to a person having ordinary skill in the art at the time of its invention.

45. In addition, I traced the internet connections to the Sproqit Server ("connect.sproqit.com," which is translated into the physical address 207.97.211.195) to its geographical location in or near San Antonio, Texas, using TraceRoute 2006 Business Edition. Attached hereto as Exhibit N is a screen shot showing the results of the trace.

I declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct.

Signed this 22nd day of November 2005 at Palo Alto, California.

Sabin Head, Ph.D.